Ladies and Gentlemen,
I am an electronic design automation software designer for Synopsys, Inc, focusing on design tools for system-level modeling and digital signal processing. In this submission I speak only for myself, but my work experience is highly relevant. I am the principal architect for our Cocentric System Studio tool, which has been used by a number of leading makers of digital cellular telephones and networks to design their products. Many of our leading customers are building their new designs around the concept of "software radio", where all functions of the digital receiver are implemented in software.

The "broadcast flag" proposals appear to ban distribution to the consumer of any software that has the ability to decode a digital video signal unless this software is somehow rendered "tamper-proof".
This would appear to forbid any US company to participate in what has the potential to become an important market: the sale of source code that the customer can build on to produce a product that is capable of digital video reception. Even if such source code fully implements the broadcast flag feature, this will not suffice because source code is easy to modify. Alternatives include creating two classes of citizen, a "consumer" with no rights to view source code, and an employee of an electronics company who has signed nondisclosure agreements. But what if the "consumer" is an engineer in training?

Non-US companies would not be subject to the same restriction, which could damage the US competitive position against Asian and European electronics companies. Even if regulations are set up to allow authorized and trusted engineers to receive and use the source code to build their products from, the regulatory burdens would tend to force small players out of the market.

Training of future electronics engineers could also be damaged substantially, as students will need to be prevented from having access to toolkits for building digital receivers. Any toolkit with
sufficient power to be useful in training a digital signal processing engineer will be powerful enough to build a receiver out of that does not honor the broadcast flag, and will therefore have to be forbidden.
While in graduate school at the University of California, Berkeley, I was the principal implementer of one such system: Ptolemy (see http://ptolemy.eecs.berkeley.edu/). If the US cannot persuade other countries to go along with the restrictive regulations you propose, damage to the future US economy could be substantial.

There is the further matter that only law-abiding people will have their interests damaged by the proposed regulation, as "pirates" will modify their equipment to ignore the broadcast flag, or will simply re-digitize high-quality analog versions of the signals.

The FCC should not forget that the US electronics industry has substantially more revenue than the US "content provider" industry:
by one estimate, it's $600 billion vs $35 billion. Given this, any measure that attempts to protect Hollywood that causes even 10% damage to the electronics industry does more harm to the US economy than the complete destruction of the film industry and the record companies. Also, the entertainment industry has a track record of trying to destroy almost every significant communications innovation going back to

Marconi. For years, the movie industry withheld their product from use by analog television, yet analog television survived.

If the movie studios won't allow digital broadcast of their works unless they can regulate every aspect of the electronics industry, the proper solution should be to simply allow them to withhold the works.

The call for comments also asks if there are First Amendment issues involved. As several courts have ruled that source code is free speech, it may be (if such decisions survive appeal) that the FCC cannot forbid the distribution of digital radio infrastructure, though it might be able to forbid the distribution of executable code or the use of a software system that ignores the broadcast flag.